

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously amended) A method for providing a response to a request for information from a client computing system to a server computing system having an output cache for storing portions of web pages corresponding to at least partial responses to previous requests for information, the method comprising:

receiving, at the server computing system, a request for information from the client computing system;

creating a page object having references to objects on the server computing system in response to the received request for information, when the output cache contains a pre-rendered output data of an object referenced by the page object, the pre-rendered output data of the object referenced by the page object contained in the output cache is retrieved from the output cache and when the output cache does not contain a pre-rendered output data of an object referenced by the page object, executable code for the object referenced by the page object not contained in the output cache is retrieved from another source and instantiated to create the object referenced by the page object;

inserting the retrieved pre-rendered output data and objects as components into a hierarchical tree data model such that each component is linked to at least a prior component;

rendering the components of hierarchical tree data model to create a rendered page; and

sending contents of the created rendered page to the client computing system..

2. (previously amended) The method of claim 1, wherein:

the created page object includes a reference to a user control object, the user control object including instructions for obtaining data and an output caching directive for caching output data generated by rendering the user control object for the created page,

the step of rendering further comprises:

executing instructions of the user control object to obtain the data and the output data;

and

storing the output data in the output cache.

3. (previously amended) The method of claim 1, wherein the contents of the created rendered page comprises an HTML specification for a web page.

4. (previously amended) The method of claim 2, wherein:
the created rendered page includes at least one control;
the step of inserting a component includes inserting a component corresponding to each respective one of the at least one control; and
the step of rendering the page comprises rendering each one of the components individually.

5. (previously amended) The method of claim 4, further comprising:
creating the hierarchical tree data model including each of the components and a hierarchical relationship among the components, the data model being used during the step of the rendering the page to render each of the components.

6. (original) The method of claim 2, wherein the output caching directive includes a time duration during which the output data is permitted to reside in the output cache.

7. (original) The method of claim 6, wherein the output caching directive includes an attribute indicating a condition for varying the output data to be stored in the output cache.

8. (original) The method of claim 7, wherein the attribute indicates that the output data is to be stored in the output cache according to a type of browser used by the client computing system.

9. (original) The method of claim 7, wherein the attribute indicates that the output data is to be stored in the output cache according to values of at least one parameter.

10. (original) The method of claim 1, further comprising providing, on the server computing system, performance counters to monitor output caching performance.

11. (original) The method of claim 10, wherein the performance counters include:
an output cache hit counter to count a number of requests serviced from the output cache;
and
an output cache miss counter to count a number of failed output cache requests.

12. (original) The method of claim 10, wherein the performance counters include an output cache turnover rate to count a number of additions and removals to the output cache per second.

13. (original) The method of claim 10, wherein the performance counters include an output cache hit ratio to keep track of a percentage of total requests serviced from the output cache.

14. (previously amended) A machine-readable medium having instructions recorded thereon, such that when the instructions are read and executed by a processor in a computing system connected to a network, the computer system functions as a server computer system and the server computer system performs a method comprising:

receiving, at the server computing system, a request for information from the client computing system;

creating a page object having references to objects on the server computing system in response to the received request for information, when the output cache contains a pre-rendered output data of an object referenced by the page object, the pre-rendered output data of the object referenced by the page object contained in the output cache is retrieved from the output cache and when the output cache does not contain a pre-rendered output data of an object referenced by the page object, executable code for the object referenced by the page object not contained in the output cache is retrieved from another source and instantiated to create the object referenced by the page object;

inserting the retrieved pre-rendered output data and objects as components into a hierarchical tree data model such that each component is linked to at least a prior component; rendering the components of hierarchical tree data model to create a rendered page; and sending contents of the created rendered page to the client computing system..

15. (previously amended) The medium of claim 14 wherein:
the created page object includes a reference to a user control object, the user control object including instructions for obtaining data and an output caching directive for caching output data generated by rendering the user control object for the created page,
the step of rendering further comprises:
executing instructions of the user control object to obtain the data and the output data;
and
storing the output data in the output cache.

16. (previously amended) The medium of claim 14, wherein the contents of the created rendered page comprises an HTML specification for a web page.

17. (currently amended) The medium of claim 15, wherein;
the created rendered page includes at least one control;
the step of inserting a component includes inserting a component corresponding to each respective one of the at least one control; and
the step of rendering the page comprises rendering each one of the components individually.

18. (previously amended) The medium of claim 17, further comprising:
creating a hierarchical tree data model including each of the components and a hierarchical relationship among the components, the data model being used during the step of rendering the page to render each of the components.

19. (original) The medium of claim 15, wherein the output caching directive includes a time duration during which the output data is permitted to reside in the output cache.

20. (original) The medium of claim 19, wherein the output caching directive includes an attribute indicating a condition for varying the output data to be stored in the output cache.

21. (original) The medium of claim 20, wherein the attribute indicates that the output data is to be stored in the output cache according to a type of browser used by the client computing system.

22. (original) The medium of claim 20, wherein the attribute indicates that the output data is to be stored in the output cache according to values of at least one parameter.

23. (original) The medium of claim 14, further comprising providing, on the server computing system, performance counters to monitor output caching performance.

24. (original) The medium of claim 23, wherein the performance counters include:
an output cache hit counter to count a number of requests serviced from the output cache;
and
an output cache miss counter to count a number of failed output cache requests.

25. (original) The medium of claim 23, wherein the performance counters include an output cache turnover rate to count a number of additions and removals to the output cache per second.

26. (original) The medium of claim 23, wherein the performance counters include an output cache hit ratio to keep track of a percentage of total requests serviced from the output cache.